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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JON CHRISTIAN SOPER,
JEFF MOINAR, and JAMES MICHAEL VALE

Appeal 2010-011841
Application 10/555,727
Technology Center 1700

Before DONALD E. ADAMS, ERIC GRIMES, and
FRANCISCO C. PRATS, Administrative Patent Judges.

PRATS, Administrative Patent Judge.

DECISION ON APPEAL

This appeal under 35 U.S.C. § 134 involves claims to particles composed of a matrix that contains oil inclusions. The Examiner entered rejections for anticipation and obviousness.

We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

STATEMENT OF THE CASE

Claims 1-20 stand finally rejected and appealed (App. Br. 6). Claim 1, the only independent claim, is representative and reads as follows:

1. Matrix particles comprising a discontinuous phase of a plurality of inclusions of oil, wherein the oil is optionally flavor oil or fragrance oil, the oil dispersed within a matrix, the matrix comprising a crosslinked polymer and at least one filler.

The following rejections are before us for review:

- (1) Claims 1-5, 8, 10-12, 15, 16, and 20, under 35 U.S.C. § 102(b) as anticipated by Cherukuri¹ (Ans. 4-8);
- (2) Claims 7, 13, 14, and 17-19, under 35 U.S.C. § 103(a) as obvious over Cherukuri (Ans. 8-12);
- (3) Claim 6, under 35 U.S.C. § 103(a) as obvious over Cherukuri and Huzinec² (Ans. 12-13); and
- (4) Claim 9, under 35 U.S.C. § 103(a) as obvious over Cherukuri and Merritt³ (Ans. 14).

ANTICIPATION

Appellants argue that the Examiner erred in finding that Cherukuri anticipates claim 1 because it does not describe “matrix particles containing a plurality of inclusions of oil (i.e., akin to the multitude of seed casings contained with the outer covering of the pomegranate fruit) as is presently claimed” (App. Br. 14). Rather, Appellants urge, Cherukuri discloses

¹ U.S. Patent No. 5,266,335 (filed September 8, 1992).

² U.S. Patent No. 5,912,030 (filed September 4, 1997).

³ U.S. Patent No. 4,515,769 (filed February 2, 1983).

“capsules that contain merely one oil core surrounded by a wall (i.e., a ‘coating layer’) - that is, a plurality of oils in the single oil core” (id. at 15).

The Examiner responds by pointing out that Cherukuri’s compositions are prepared by forming emulsions

where one liquid is dispersed in the other, where one liquid is a continuous phase and another in discontinuous and since Cherukuri teaches of adding oil first to resin to make an emulsion and then the oil-resin emulsion is added to aqueous solution of hydrophilic colloidal material, (such as, gelatin) which makes an emulsion by coating or surrounding the oil-resin emulsion

(Ans. 17.) Thus, the Examiner finds, “it is inherent that the final emulsion as taught by Cherukuri comprises plurality of inclusions of flavor oil where the oil is in a discontinuous phase as discussed in the rejection” (id.).

The Examiner also cites Cherukuri’s Figure 1 as evidence that the reference’s particles meet claim 1’s matrix/inclusion configuration, urging that “some of the microcapsules appear to have more than one inclusion, i.e., plurality of inclusions (see specifically left end of the figure)” (id.). Further, the Examiner argues, the claims recite “a plurality of inclusions within a matrix, which may or may not comprise a microcapsule and can be a matrix for a confection, such as a chewing gum” (id.).

We find that Appellants have the better position.

Claim 1 recites matrix particles that contain a discontinuous phase composed of a plurality of oil inclusions, optionally flavor oil or fragrance oil, with the oil being dispersed in a matrix that contains a crosslinked polymer and at least one filler. As Appellants point out, in contrast to a plurality of inclusions, Cherukuri exclusively describes its particles as having a single core surrounded by a polymeric coating (see Cherukuri, col.

1, ll. 14-17 (“[T]his invention pertains to microcapsules containing a core comprising an emulsion of a flavoring agent and a resin and a coating layer over the core comprising a mixture of hydrocolloid materials.”); see also, *id.* at col. 3, ll. 20-34).

We acknowledge that, similar to Appellants’ preparation method (see Spec. 13), Cherukuri prepares its particles by first emulsifying an oil and a resin, which ultimately form the particles’ core, and then mixing the emulsion with one of two hydrocolloid materials, generally either gelatin or gum arabic, followed by combining the resulting mixture with the second hydrocolloid material (Cherukuri, col. 6, ll. 14-50). However, as Cherukuri explains, through coacervation of the gelatin and gum arabic, particles having the described single core/coating configuration are ultimately formed (see *id.* at col. 6, ll. 46-53), rather than the matrix/inclusion configuration required by Appellants’ claim 1.

Moreover, it is only after forming particles with the single core/coating configuration that the gelatin in the outer coating is crosslinked using glutaraldehyde (see *id.* at col. 6, ll. 59-64 (“The capsules may then be treated to increase the water-resistance of, or harden, the capsules such as by cross-linking the gelatin component In a preferred embodiment, the cross-linking agent is glutaraldehyde.”)). Thus, Cherukuri’s emulsions do not contain a crosslinked continuous phase; rather, crosslinking is performed only after the emulsion has separated into the single core/coating composition Cherukuri describes.

Accordingly, because Cherukuri’s particles contain a single oil core, as opposed to the plurality of oil inclusions dispersed in the matrix required by claim 1, we agree with Appellants that Cherukuri does not anticipate

claim 1. See *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997) (“To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.”).

We are not persuaded Cherukuri’s Figure 1 demonstrates otherwise. Rather, Cherukuri describes its Figure 1 as showing “spheroidal microcapsules which comprise a core of peppermint oil and the glycerol ester of partially hydrogenated wood rosin” (Cherukuri, col. 3, ll. 12-13 (emphasis added)).

We acknowledge Cherukuri’s disclosure that its microcapsules can be dispersed in a chewing gum base (*id.* at col. 8, ll. 39-47). We are not persuaded, however, that a chewing gum composition having Cherukuri’s particles dispersed within it meets claim 1’s requirement that the matrix/inclusions are in the form of “[m]atrix particles” as that term is interpreted in light of Appellants’ Specification.

Appellants’ Specification defines “[m]atrix particle” as “a particle comprising as a continuous phase and as a matrix material a polymer and in a discontinuous phase an oil dispersed within the matrix, e.g. a multitude of oil droplets” (Spec. 3). As the Specification explains, the matrix particles of Appellants’ invention are generally significantly smaller than 1 millimeter, and are capable of being added to food, pharmaceutical, and personal care compositions (Spec. 11-13).

Thus, we are not persuaded that an ordinary artisan would have considered Cherukuri’s chewing gum compositions to be particles, as claim 1 requires, particularly when claim 1 is interpreted in light of the Specification. Cf. *In re American Academy Of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004) (“During examination, ‘claims . . . are to

be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.”) (quoting *In re Bond*, 910 F.2d 831, 833 (Fed.Cir.1990)).

In sum, because we are not persuaded that Cherukuri discloses particles that have all of the features required of the particles recited in Appellants’ claim 1, we reverse the Examiner’s anticipation rejection of that claim, and its dependents, over Cherukuri.

OBVIOUSNESS

The Examiner also rejected claims 7, 13, 14, and 17-19 as obvious over Cherukuri (Ans. 8-12).

The Examiner found, based on Cherukuri’s teachings regarding mineral adjuvants in its chewing gum compositions, that an ordinary artisan would have been prompted to include the fillers recited in claims 13 and 14 in Cherukuri’s particles (id. at 9-10). The Examiner further reasoned, based on Cherukuri’s disclosure that its particles’ coatings could be configured to prevent any oil leaking from the core to the outside, that an ordinary artisan would have considered it obvious that the particles would meet the surface oil limitations of Appellants’ claims 7 and 17-19 (id. at 10-12).

Each of the rejected claims depends from 1. As the Examiner points to no teaching in Cherukuri that remedies the reference’s deficiencies as to claim 1, discussed above, we also reverse this rejection.

The Examiner also rejected claim 6 as obvious over Cherukuri and Huzinec (Ans. 12-13). The Examiner relied on Cherukuri as discussed above, and cited Huzinec as evidence that claim 6’s microcrystalline cellulose was known in the art to be useful in comestible products, and

would therefore also be a useful component of Cherukuri's compositions "as a carrier or filler" (id. at 13).

Again, however, the Examiner has pointed to no teaching in Huzinec that remedies Cherukuri's deficiencies, discussed above, as to claim 1. We therefore reverse this rejection as well.

The Examiner also rejected claim 9 as obvious over Cherukuri and Merritt (Ans. 14). The Examiner relied on Cherukuri as discussed above, and cited Merritt as evidence that including coloring matter as recited in claim 9 in Cherukuri's particles would have been obvious.

Again, however, the Examiner has pointed to no teaching in Merritt that remedies Cherukuri's deficiencies, discussed above, as to claim 1. We therefore reverse this rejection as well.

SUMMARY

We reverse the Examiner's anticipation rejection of claims 1-5, 8, 10-12, 15, 16, and 20 over Cherukuri.

We also reverse the Examiner's obviousness rejection of claims 7, 13, 14, and 17-19 over Cherukuri.

We also reverse the Examiner's obviousness rejection of claim 6 over Cherukuri and Huzinec.

We also reverse the Examiner's obviousness rejection of claim 9 over Cherukuri and Merritt.

REVERSED